AD-A065 003 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
19303A GSRS MISSILE NUMBERS 1015 AND 1016, ROUND NUMBERS V-15 A--ETC(U)
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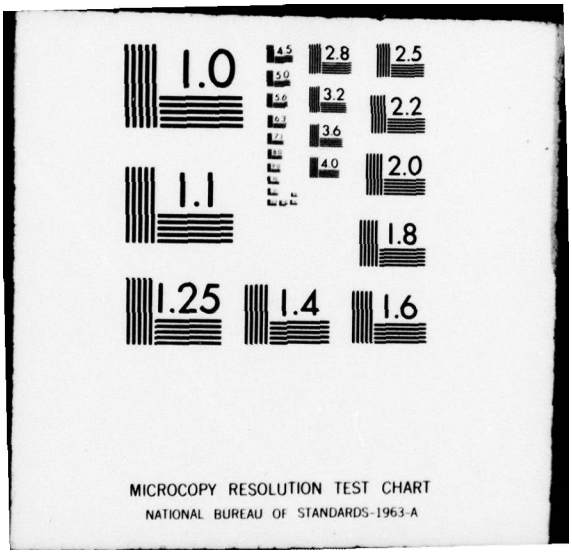
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NATIONAL BUREAU OF STANDARDS-1963-A

DR-984
February 1979



AD

LEVEL II

10



# METEOROLOGICAL DATA REPORT

19303A GSRS
Missile Nos. 1015 and 1016
Round Nos. V-15 and V-16
(14 December 1978)

By

WSMR Meteorological Team



ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

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| 7. AUTHOR(s): WSMR Meteorological [redacted] data rept. | 8. CONTRACT OR GRANT NUMBER(s): DA Task 1T665702D127-02 |
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1. Ballistics
2. Meteorology
3. Wind

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of 19303A GSRS, Missile Number 1015 and 1016, Round Numbers V-15 and V-16, are presented in tabular form.

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CONTENTS

## INTRODUCTION

(FB) 19303 GSRS, Missile Numbers 1015 and 1016, Round Numbers V-15 and V-16, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0827 and 0837 MST, 14 December 1978. The scheduled launch times were 0830 and 0840 MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{o}C$), relative humidity, dew point ($^{o}C$), density ($gm/m^3$), wind direction, wind velocity and cloud cover were made at the LC-33 Met Site at T-0 mins.

(2) Anemometer data were provided from existing pole mounted and tower mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

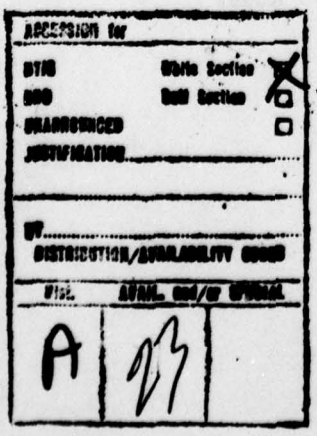
b. Upper Air

(1) Low level wind data were obatined from RAPTS-T-9 pibals observation at T-0 mins as follows:

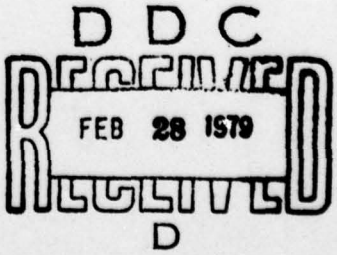
SITE & ALT.

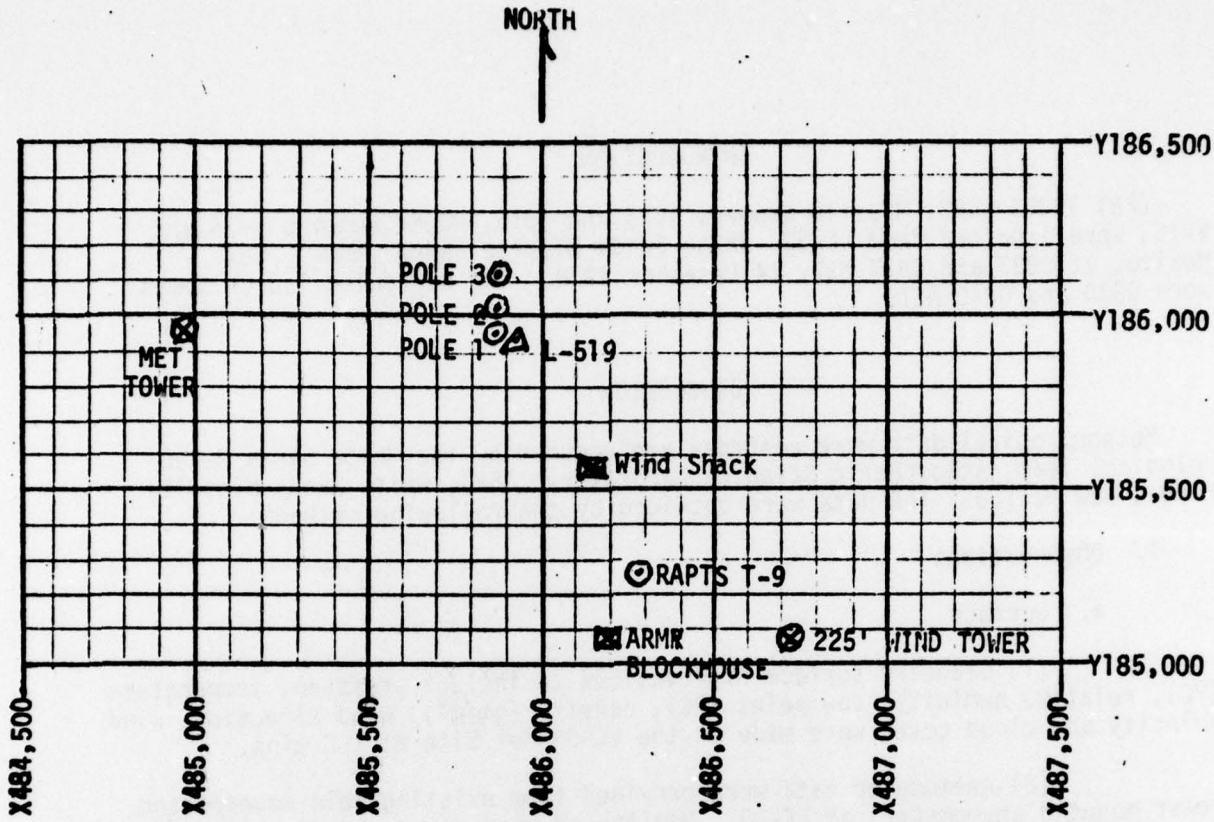
LC-33 900 meters (15 meter incs)
APA 900 meters (30 meter incs)

(2) Air structure data (rawinsonde) were collected at the SMR Met Site at T-0 mins. Data were collected from surface to 125% of apogee in 100 meter incs.




LEVEL II






1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders in Wind Shack.

2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders in Wind Shack

   (a) Pole #1 - 38.7 ft

   (b) Pole #2 - 53.0 ft

   (c) Pole #3 - 83.6 ft

3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.

4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

The data are presented in the following tabulations:

| | | |
|---|---|---|
| ELEVATION | 3989 | FEET/MSL |
| PRESSURE | 887.6 | MBS |
| TEMPERATURE | 1.7 | $^{o}C$ |
| RELATIVE HUMIDITY | 73 | % |
| DEW POINT | -2.5 | $^{o}C$ |
| DENSITY | 1121 | $GM/M^3$ |
| WIND SPEED | 03 | MPH |
| WIND DIRECTION | 050 | DEGREES |
| CLOUD COVER | 1 | Ci |

TABLE I. SURFACE OBSERVATIONS TAKEN AT WSD
AT 0830 MST/14 DECEMBER 1978
19303 GSRS, MISSILE NUMBER 1015
ROUND NUMBER V-15

The data are presented in the following tabulations:

| | | |
|---|---|---|
| ELEVATION | 3989 | FEET/MSL |
| PRESSURE | 887.6 | MBS |
| TEMPERATURE | 1.7 | $^{o}C$ |
| RELATIVE HUMIDITY | 73 | % |
| DEW POINT | -2.5 | $^{o}C$ |
| DENSITY | 1121 | $GM/M^3$ |
| WIND SPEED | CALM | MPH |
| WIND DIRECTION | 0 | DEGREES |
| CLOUD COVER | CLEAR | |

TABLE II. SURFACE OBSERVATIONS TAKEN AT WSD
AT 0840 MST/14 DECEMBER 1978
19303 GSRS, MISSILE NUMBER 1016
ROUND NUMBER V-16

| T-TIME (SEC) | SPEED (MPH) | DIR DEG |
|---|---|---|
| -30.0 | 05 | 035 |
| -20.0 | 04 | 035 |
| -10.0 | 04 | 035 |
| -00.0 | 03 | 035 |
| +10.0 | 03 | 035 |
| +20.0 | 02 | 035 |
| +30.0 | 02 | 035 |

TABLE III. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
RELEASED FROM LC-33 AT 0827 MST/14 DECEMBER 1978
19303 GSRS/ROUND NUMBER V-15

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4018.74

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| T-TIME (SEC) | SPEED (MPH) | DIR DEG |
|---|---|---|
| -30.0 | 04 | 030 |
| -20.0 | 04 | 030 |
| -10.0 | 04 | 030 |
| -00.0 | 04 | 030 |
| +10.0 | 04 | 030 |
| +20.0 | 03 | 035 |
| +30.0 | 04 | 055 |

TABLE IV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
RELEASED FROM LC-33 AT 0827 MST/14 DECEMBER 1978
19303 GSRS/ROUND NUMBER V-15

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| T-TIME (SEC) | SPEED (MPH) | DIR DEG |
|---|---|---|
| -30.0 | 00 | 00 |
| -20.0 | 00 | 00 |
| -10.0 | 00 | 00 |
| 00.0 | 00 | 00 |
| +10.0 | 00 | 00 |
| +20.0 | 00 | 00 |
| +30.0 | 00 | 00 |

TABLE V. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 3
RELEASED FROM LC-33 AT 0827 MST/14 DECEMBER 1978
19303 GSRS/ROUND NUMBER V-15

WSTM COORDINATES: X = 485,877.29 Y = 186,116.06 Z = 4063.92

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| T-TIME (SEC) | SPEED (MPH) | DIR DEG |
|---|---|---|
| -30.0 | 07 | 045 |
| -20.0 | 07 | 045 |
| -10.0 | 07 | 040 |
| 00.0 | 07 | 040 |
| +10.0 | 06 | 040 |
| +20.0 | 07 | 040 |
| +30.0 | 07 | 040 |

TABLE VI. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
RELEASED FROM LC-33 AT 0837 MST/14 DECEMBER 1978
19303 GSRS/ROUND NUMBER V-16

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4018.74

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| T-TIME (SEC) | SPEED (MPH) | DIR DEG |
|---|---|---|
| -30.0 | 05 | 050 |
| -20.0 | 05 | 045 |
| -10.0 | 05 | 040 |
| 00.0 | 05 | 040 |
| +10.0 | 05 | 040 |
| +20.0 | 05 | 045 |
| +30.0 | 05 | 045 |

TABLE VII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
RELEASED FROM LC-33 AT 0837 MST/14 DECEMBER 1978
19303 GSRS/ROUND NUMBER V-16

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| T-TIME (SEC) | SPEED (MPH) | DIR DEG |
|---|---|---|
| -30.0 | 00 | 00 |
| -20.0 | 00 | 00 |
| -10.0 | 00 | 00 |
| 00.0 | 00 | 00 |
| +10.0 | 00 | 00 |
| +20.0 | 00 | 00 |
| +30.0 | 00 | 00 |

TABLE VIII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 3
RELEASED FROM LC-33 AT 0837 MST/14 DECEMBER 1978
19303 GSRS/ROUND NUMBER V-16

WSTM COORDINATES: X = 485,877.29 Y = 186,116.06 Z = 4063.92

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| SUR | 000 | 0.0 |
| 50 | M | M |
| 100 | M | M |
| 150 | M | M |
| 200 | M | M |
| 250 | M | M |
| 300 | M | M |
| 350 | M | M |
| 400 | M | M |
| 450 | 045 | 2.5 |
| 500 | 011 | 2.5 |
| 550 | 159 | 2.7 |
| 600 | 295 | 1.2 |
| 650 | 224 | 2.1 |
| 700 | 224 | 1.7 |
| 750 | 165 | 1.9 |
| 800 | 135 | 1.5 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 850 | 135 | 1.8 |
| 900 | 135 | 2.1 |
| 950 | 124 | 3.0 |
| 1000 | 113 | 3.8 |
| 1050 | 102 | 3.2 |
| 1100 | 090 | 2.5 |
| 1150 | 014 | 2.1 |
| 1200 | 360 | 2.0 |
| 1250 | 360 | 3.5 |
| 1300 | 360 | 4.9 |
| 1350 | 328 | 3.5 |
| 1400 | 297 | 2.2 |
| 1450 | 259 | 4.1 |
| 1500 | 221 | 6.0 |
| 1550 | 218 | 6.0 |
| 1600 | 212 | 6.0 |
| 1650 | 181 | 6.5 |

TABLE IX. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33
AT 0831 MST/14 DECEMBER 1978
19303 GSRS, MISSILE NUMBER 1015, ROUND NUMBER V-15

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3977.30

APPROXIMATELY: 0.5 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 1700 | 149 | 7.0 |
| 1750 | 206 | 5.5 |
| 1800 | 263 | 4.0 |
| 1850 | 292 | 3.7 |
| 1900 | 320 | 3.4 |
| 1950 | 290 | 3.2 |
| 2000 | 260 | 3.0 |
| 2050 | 265 | 2.9 |
| 2100 | 270 | 2.7 |
| 2150 | 268 | 2.6 |
| 2200 | 265 | 2.5 |
| 2250 | 257 | 1.8 |
| 2300 | 248 | 1.1 |
| 2350 | 237 | 1.6 |
| 2400 | 225 | 2.1 |
| 2450 | 196 | 2.6 |
| 2500 | 167 | 3.1 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 2550 | 159 | 3.1 |
| 2600 | 150 | 3.0 |
| 2650 | 165 | 2.7 |
| 2700 | 180 | 2.3 |
| 2750 | 257 | 3.4 |
| 2800 | 334 | 4.5 |
| 2850 | 315 | 2.2 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| SUR | 000 | 0.0 |
| 50 | M | M |
| 100 | M | M |
| 150 | M | M |
| 200 | M | M |
| 250 | M | M |
| 300 | M | M |
| 350 | M | M |
| 400 | 104 | 8.0 |
| 450 | 108 | 9.0 |
| 500 | 129 | 6.0 |
| 550 | 008 | 1.4 |
| 600 | 173 | 1.0 |
| 650 | 309 | 1.0 |
| 700 | 043 | 1.0 |
| 750 | 113 | 1.1 |
| 800 | 149 | 1.8 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 850 | 099 | 1.9 |
| 900 | 107 | 4.1 |
| 950 | 111 | 5.3 |
| 1000 | 119 | 5.1 |
| 1050 | 114 | 4.9 |
| 1100 | 109 | 4.7 |
| 1150 | 091 | 3.6 |
| 1200 | 073 | 2.4 |
| 1250 | 045 | 2.1 |
| 1300 | 004 | 2.5 |
| 1350 | 002 | 3.0 |
| 1400 | 335 | 3.0 |
| 1450 | 316 | 3.6 |
| 1500 | 296 | 2.6 |
| 1550 | 238 | 2.5 |
| 1600 | 180 | 2.3 |
| 1650 | 187 | 3.0 |

TABLE X. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM LC-33
AT 0840 MST/14 DECEMBER 1978
19303 GSRS, MISSILE NUMBER 1016, ROUND NUMBER V-16

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3977.30

APPROXIMATELY: 0.5 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 1700 | 194 | 3.6 |
| 1750 | 185 | 3.3 |
| 1800 | 176 | 3.0 |
| 1850 | 178 | 2.5 |
| 1900 | 180 | 2.0 |
| 1950 | 202 | 1.7 |
| 2000 | 224 | 1.3 |
| 2050 | 253 | 1.6 |
| 2100 | 282 | 1.9 |
| 2150 | 292 | 2.2 |
| 2200 | 301 | 2.5 |
| 2250 | 288 | 1.9 |
| 2300 | 275 | 1.3 |
| 2350 | 316 | 1.6 |
| 2400 | 357 | 1.8 |
| 2450 | 342 | 1.8 |
| 2500 | 326 | 1.8 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 2550 | 245 | 2.6 |
| 2600 | 163 | 3.3 |
| 2650 | 151 | 2.7 |
| 2700 | 139 | 2.0 |
| 2750 | 155 | 2.1 |
| 2800 | 214 | 5.2 |
| 2850 | 236 | 5.4 |
| 2900 | 253 | 5.1 |
| 2950 | 283 | 4.6 |
| 3000 | 310 | 3.9 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| SUR | 350 | 4.0 |
| 100 | 353 | 9.0 |
| 200 | 354 | 14.0 |
| 300 | 353 | 13.5 |
| 400 | 351 | 11.5 |
| 500 | 348 | 9.0 |
| 600 | 339 | 5.0 |
| 700 | 291 | 2.0 |
| 800 | 240 | 2.0 |
| 900 | 216 | 2.5 |
| 1000 | 210 | 2.5 |
| 1100 | 225 | 1.5 |
| 1200 | 256 | 1.0 |
| 1300 | 250 | 1.5 |
| 1400 | 248 | 2.5 |
| 1500 | 247 | 3.0 |
| 1600 | 247 | 3.5 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 1700 | 254 | 3.5 |
| 1800 | 264 | 3.5 |
| 1900 | 274 | 3.5 |
| 2000 | 284 | 4.0 |
| 2100 | 290 | 4.0 |
| 2200 | 292 | 3.5 |
| 2300 | 293 | 3.0 |
| 2400 | 289 | 2.5 |
| 2500 | 284 | 2.5 |
| 2600 | 281 | 2.0 |
| 2700 | 277 | 1.5 |
| 2800 | 284 | 1.5 |
| 2900 | 290 | 1.5 |
| 3000 | 297 | 2.0 |

TABLE XI. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM APACHE AT 0820 MST/14 DECEMBER 1978
19303 GSRS, MISSILE NUMBER 1015, ROUND NUMBER V-15

PIBAL RELEASE POINT WSTM COORDINATES:

X = 481,408 Y = 267,771 Z = 3956

APPROXIMATELY: 10.0 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| SUR | 340 | 6.0 |
| 100 | 344 | 7.0 |
| 200 | 348 | 8.0 |
| 300 | 346 | 7.0 |
| 400 | 342 | 5.5 |
| 500 | 335 | 4.0 |
| 600 | 306 | 2.0 |
| 700 | 230 | 2.0 |
| 800 | 207 | 2.5 |
| 900 | 196 | 3.0 |
| 1000 | 194 | 3.0 |
| 1100 | 202 | 2.5 |
| 1200 | 219 | 2.0 |
| 1300 | 234 | 2.5 |
| 1400 | 244 | 3.0 |
| 1500 | 257 | 3.5 |
| 1600 | 265 | 4.0 |

| HEIGHT (FEET) | DIRECTION (DEGREES) | SPEED (MPH) |
|---|---|---|
| 1700 | 275 | 4.5 |
| 1800 | 285 | 4.5 |
| 1900 | 292 | 4.5 |
| 2000 | 298 | 4.0 |
| 2100 | 305 | 3.5 |
| 2200 | 314 | 3.0 |
| 2300 | 324 | 3.0 |
| 2400 | 330 | 3.0 |
| 2500 | 334 | 3.5 |
| 2600 | 333 | 4.0 |
| 2700 | 333 | 4.0 |
| 2800 | 319 | 5.5 |
| 2900 | 311 | 6.5 |
| 3000 | 308 | 7.5 |

TABLE XII. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM APACHE AT 0845 MST/14 DECEMBER 1978
19303 GSRS, MISSILE NUMBER 1016, ROUND NUMBER V-16

PIBAL RELEASE POINT WSTM COORDINATES:

X = 481,408 Y = 267,771 Z = 3956

APPROXIMATELY: 10.0 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3939.00 FEET MSL
14 DEC. 78 0830 HRS MST
ASCENSION NO. 197

SIGNIFICANT LEVEL DATA
34800260797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| PRESSURE MILLIBARS | GEOMETRIC ALTITUDE MSL FEET | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT DEGREES CENTIGRADE | REL.HUM. PERCENT |
|---|---|---|---|---|
| 890.0 | 3809.0 | .8 | -4.0 | 66.0 |
| 850.0 | 5204.8 | 1.0 | -4.9 | 52.0 |
| 792.4 | 7065.6 | 2.5 | -9.4 | 41.0 |
| 782.6 | 7397.0 | 3.8 | -6.7 | 46.0 |
| 775.2 | 7649.9 | 3.9 | 3.8 | 96.0 |
| 754.0 | 8392.3 | 3.0 | -2.4 | 64.0 |
| 749.3 | 8559.5 | 4.5 | -5.5 | 48.0 |
| 739.9 | 8898.1 | 5.5 | -5.0 | 45.0 |
| 700.0 | 10379.4 | 2.4 | -9.7 | 31.0 |
| 634.6 | 12861.0 | -2.9 | -8.6 | 58.0 |
| 630.3 | 13168.4 | -2.5 | -9.2 | 50.0 |
| 525.0 | 15169.0 | -3.8 | -12.0 | 52.0 |
| 500.0 | 19098.4 | -11.5 | -31.6 | 17.0 |
| 449.6 | 21704.2 | -15.6 | -35.9 | 16.0 |
| 400.0 | 24608.5 | -23.6 | -41.7 | 17.0 |
| 383.8 | 25972.1 | -33.8 | -49.8 | 15.0 |
| 300.0 | 31704.2 | -40.8 | | |
| 264.4 | 33694.3 | -45.5 | | |
| 250.0 | 35529.1 | -47.2 | | |
| 200.6 | 40148.9 | -54.2 | | |
| 169.0 | 43603.9 | -58.7 | | |
| 150.5 | 44801.4 | -53.7 | | |
| 150.0 | 45896.1 | -60.2 | | |
| 136.4 | 47749.6 | -60.7 | | |
| 132.2 | 48901.6 | -53.4 | | |
| 116.0 | 51142.1 | -64.2 | | |
| 100.0 | 54746.1 | -70.2 | | |
| 85.0 | 57941.5 | -73.5 | | |
| 70.0 | 61243.4 | -71.4 | | |
| 59.9 | 67712.8 | -65.7 | | |

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STATION ALTITUDE 3989.00 FEET MSL
14 DEC. 78 0630 HRS MST
ASCENSION NO. 797

SIGNIFICANT LEVEL DATA
34300 20797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| PRESSURE MILLIBARS | GEOMETRIC ALTITUDE MSL FEET | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT DEGREES CENTIGRADE | REL.HUM. PERCENT |
|---|---|---|---|---|
| 33.6 | 74765.3 | -62.6 | | |
| 30.0 | 78315.3 | -57.8 | | |
| 22.0 | 86760.0 | -59.3 | | |
| 20.0 | 88776.1 | -55.9 | | |

STATION ALTITUDE 3989.00 FEET MSL
14 DEC. 78 0630 HRS MST
ASCENSION NO. 797

UPPER AIR DATA
348020797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT CENTIGRADE | REL.HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|---|---|---|---|---|---|---|---|---|---|
| 3989.0 | 890.0 | .6 | -4.8 | 66.0 | 1129.7 | 645.4 | .0 | .0 | 1.000273 |
| 4000.0 | 889.6 | .6 | -4.8 | 66.0 | 1129.2 | 645.4 | 210.0 | .0 | 1.000273 |
| 4500.0 | 873.0 | 1.1 | -4.8 | 64.3 | 1108.7 | 645.3 | 218.0 | 1.6 | 1.000268 |
| 5000.0 | 856.6 | 1.5 | -4.9 | 62.7 | 1088.5 | 645.2 | 218.0 | 3.2 | 1.000263 |
| 5500.0 | 840.6 | 1.7 | -5.5 | 58.7 | 1068.5 | 645.5 | 218.0 | 4.7 | 1.000257 |
| 6000.0 | 824.9 | 2.0 | -6.6 | 53.0 | 1048.7 | 646.8 | 226.3 | 5.9 | 1.000251 |
| 6500.0 | 809.5 | 2.2 | -7.8 | 47.4 | 1029.4 | 647.0 | 266.5 | 7.7 | 1.000245 |
| 7000.0 | 794.4 | 2.5 | -9.2 | 41.7 | 1009.6 | 647.2 | 286.8 | 10.5 | 1.000239 |
| 7500.0 | 779.6 | 3.8 | -2.6 | 62.0 | 970.1 | 649.2 | 305.0 | 12.1 | 1.000243 |
| 8000.0 | 765.1 | 3.9 | 1.2 | 82.7 | 959.1 | 649.5 | 315.6 | 14.2 | 1.000247 |
| 8500.0 | 751.0 | 4.3 | -4.3 | 53.7 | 941.0 | 649.6 | 320.4 | 13.5 | 1.000232 |
| 9000.0 | 737.1 | 5.3 | -5.5 | 45.4 | 920.5 | 650.7 | 322.0 | 13.0 | 1.000225 |
| 9500.0 | 723.4 | 4.8 | -5.9 | 47.4 | 909.7 | 649.5 | 329.8 | 13.4 | 1.000221 |
| 10000.0 | 710.0 | 5.2 | -6.3 | 49.5 | 890.2 | 648.3 | 327.7 | 13.9 | 1.000218 |
| 10500.0 | 696.8 | 2.2 | -6.7 | 51.8 | 880.6 | 647.3 | 321.5 | 12.0 | 1.000215 |
| 11000.0 | 683.7 | 1.1 | -6.9 | 55.1 | 860.8 | 646.8 | 312.6 | 10.2 | 1.000211 |
| 11500.0 | 670.8 | .1 | -7.1 | 58.4 | 850.5 | 644.9 | 298.1 | 9.3 | 1.000208 |
| 12000.0 | 658.2 | -.9 | -7.3 | 61.7 | 840.6 | 643.4 | 284.3 | 9.1 | 1.000205 |
| 12500.0 | 645.8 | -2.0 | -7.6 | 65.0 | 827.9 | 642.2 | 279.7 | 9.2 | 1.000202 |
| 13000.0 | 633.7 | -2.2 | -7.2 | 66.2 | 814.9 | 641.2 | 275.1 | 9.2 | 1.000199 |
| 13500.0 | 621.6 | -2.7 | -10.5 | 53.0 | 799.4 | 641.2 | 291.5 | 9.4 | 1.000192 |
| 14000.0 | 609.8 | -3.1 | -10.5 | 48.1 | 785.8 | 640.7 | 302.9 | 10.2 | 1.000187 |
| 14500.0 | 598.2 | -3.4 | -14.6 | 41.2 | 771.8 | 640.3 | 309.2 | 12.0 | 1.000182 |
| 15000.0 | 586.8 | -3.7 | -17.1 | 34.8 | 757.9 | 639.8 | 311.9 | 13.7 | 1.000177 |
| 15500.0 | 575.5 | -4.4 | -19.1 | 30.7 | 745.5 | 638.9 | 308.4 | 14.9 | 1.000173 |
| 16000.0 | 564.4 | -5.4 | -20.7 | 27.3 | 733.8 | 637.7 | 300.1 | 15.9 | 1.000170 |
| 16500.0 | 553.4 | -6.4 | -22.3 | 24.9 | 722.5 | 636.5 | 305.3 | 16.7 | 1.000166 |
| 17000.0 | 542.7 | -7.4 | -24.9 | 23.6 | 711.8 | 635.5 | 305.2 | 17.1 | 1.000163 |
| 17500.0 | 532.2 | -8.4 | -25.7 | 23.1 | 699.3 | 634.1 | 305.8 | 17.1 | 1.000160 |
| 18000.0 | 521.9 | -9.3 | -27.5 | 21.2 | 688.9 | 632.9 | 305.6 | 17.3 | 1.000157 |

UPPER AIR DATA
3430020797
WHITE SANDS

STATION ALTITUDE 3999.00 FEET MSL
14 DEC. 76 0830 HRS MST
ASCENSION NO. 797

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT CENTIGRADE | REL.HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|---|---|---|---|---|---|---|---|---|---|
| 13500.0 | 511.3 | -10.3 | -28.3 | 19.3 | 676.2 | 681.7 | 303.6 | 18.1 | 1.000154 |
| 14000.0 | 501.9 | -11.3 | -31.2 | 17.4 | 667.6 | 678.5 | 302.1 | 18.8 | 1.000151 |
| 14500.0 | 492.9 | -12.2 | -30.2 | 16.8 | 659.0 | 675.4 | 305.6 | 19.5 | 1.000149 |
| 15000.0 | 484.3 | -13.0 | -33.1 | 16.7 | 650.7 | 672.4 | 308.9 | 20.2 | 1.000146 |
| 15500.0 | 472.7 | -13.9 | -33.9 | 16.5 | 639.6 | 667.4 | 313.7 | 21.0 | 1.000143 |
| 16000.0 | 463.4 | -14.7 | -34.7 | 16.3 | 629.5 | 663.4 | 318.6 | 21.9 | 1.000141 |
| 16500.0 | 454.2 | -15.6 | -35.5 | 16.1 | 619.1 | 659.3 | 320.4 | 23.1 | 1.000138 |
| 17000.0 | 445.1 | -16.7 | -36.4 | 16.1 | 609.4 | 654.0 | 320.6 | 24.5 | 1.000136 |
| 17500.0 | 435.1 | -18.0 | -37.4 | 16.3 | 598.2 | 648.4 | 320.1 | 25.4 | 1.000134 |
| 18000.0 | 427.2 | -19.3 | -38.4 | 16.4 | 588.2 | 643.7 | 318.4 | 25.7 | 1.000132 |
| 18500.0 | 418.6 | -20.6 | -39.4 | 16.6 | 577.4 | 639.1 | 315.8 | 26.4 | 1.000130 |
| 19000.0 | 410.1 | -22.0 | -40.4 | 16.8 | 568.7 | 634.5 | 311.6 | 27.8 | 1.000128 |
| 19500.0 | 401.8 | -23.3 | -41.5 | 17.0 | 560.1 | 630.0 | 306.2 | 29.4 | 1.000126 |
| 20000.0 | 393.4 | -24.5 | -42.4 | 17.1 | 551.2 | 625.4 | 300.0 | 31.6 | 1.000124 |
| 20500.0 | 385.2 | -25.7 | -43.4 | 17.2 | 542.2 | 620.8 | 302.5 | 33.8 | 1.000122 |
| 21000.0 | 377.1 | -26.9 | -44.3 | 17.3 | 533.4 | 616.3 | 300.1 | 35.5 | 1.000120 |
| 21500.0 | 369.1 | -28.1 | -45.2 | 17.4 | 524.6 | 609.8 | 295.2 | 37.2 | 1.000118 |
| 22000.0 | 361.4 | -29.3 | -46.2 | 17.6 | 516.3 | 606.4 | 297.1 | 39.4 | 1.000116 |
| 22500.0 | 353.5 | -30.5 | -47.1 | 17.7 | 507.9 | 601.9 | 296.3 | 41.6 | 1.000114 |
| 23000.0 | 345.4 | -31.7 | -48.1 | 17.8 | 499.8 | 597.4 | 295.3 | 43.5 | 1.000112 |
| 23500.0 | 339.1 | -32.9 | -49.1 | 17.9 | 491.7 | 593.9 | 294.2 | 45.2 | 1.000110 |
| 24000.0 | 331.9 | -34.1 | -50.5 | 17.1** | 483.7 | 588.5 | 292.6 | 45.2 | 1.000108 |
| 24500.0 | 324.7 | -35.4 | -51.6 | 13.4** | 475.3 | 584.7 | 290.9 | 43.2 | 1.000106 |
| 25000.0 | 317.7 | -36.7 | -52.3 | 9.7** | 466.9 | 579.1 | 289.4 | 41.5 | 1.000104 |
| 25500.0 | 310.9 | -37.9 | -52.9 | 6.0** | 458.3 | 577.5 | 289.6 | 40.5 | 1.000103 |
| 26000.0 | 304.6 | -39.2 | -53.9 | 3.0** | 452.6 | 573.8 | 288.6 | 39.5 | 1.000101 |
| 26500.0 | 297.4 | -40.5 | | | 443.2 | 569.3 | 290.6 | 41.0 | 1.000099 |
| 27000.0 | 290.7 | -41.6 | | | 435.5 | 565.5 | 291.5 | 42.7 | 1.000097 |
| 27500.0 | 284.3 | -42.8 | | | 429.9 | 561.3 | 290.2 | 43.8 | 1.000096 |
| 28000.0 | 278.0 | -44.0 | | | 422.3 | 557.6 | 287.8 | 44.6 | 1.000094 |

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.00 FEET MSL
14 DEC. 78 0630 HRS MST
ASCENSION NO. 797

UPPER AIR DATA
3400820797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT CENTIGRADE | REL.HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|---|---|---|---|---|---|---|---|---|---|
| 33500.0 | 271.0 | -45.1 | | | 413.2 | 588.3 | 284.4 | 45.4 | 1.000092 |
| 34000.0 | 265.7 | -45.9 | | | 407.2 | 587.3 | 279.0 | 46.2 | 1.000091 |
| 34500.0 | 259.7 | -46.4 | | | 399.9 | 586.7 | 275.8 | 47.4 | 1.000089 |
| 35000.0 | 253.8 | -46.9 | | | 393.7 | 585.8 | 271.1 | 49.3 | 1.000087 |
| 35500.0 | 248.0 | -47.4 | | | 387.4 | 585.3 | 268.6 | 51.4 | 1.000085 |
| 36000.0 | 242.3 | -48.2 | | | 379.2 | 584.5 | 266.4 | 54.8 | 1.000084 |
| 36500.0 | 236.7 | -48.9 | | | 367.8 | 583.4 | 265.9 | 58.6 | 1.000082 |
| 37000.0 | 231.3 | -49.6 | | | 360.5 | 582.4 | 269.5 | 61.6 | 1.000080 |
| 37500.0 | 226.0 | -50.4 | | | 356.5 | 581.9 | 269.6 | 63.7 | 1.000079 |
| 38000.0 | 220.8 | -51.1 | | | 348.5 | 580.5 | 269.9 | 66.0 | 1.000077 |
| 38500.0 | 215.7 | -51.8 | | | 339.5 | 579.6 | 270.0 | 68.6 | 1.000076 |
| 39000.0 | 210.7 | -52.5 | | | 332.5 | 578.6 | 270.1 | 71.2 | 1.000074 |
| 39500.0 | 205.9 | -53.3 | | | 326.2 | 577.9 | 270.5 | 74.0 | 1.000073 |
| 40000.0 | 201.1 | -54.0 | | | 319.7 | 577.7 | 270.5 | 76.8 | 1.000071 |
| 40500.0 | 196.4 | -54.8 | | | 313.5 | 575.7 | 269.8 | 77.8 | 1.000070 |
| 41000.0 | 191.7 | -55.5 | | | 307.0 | 574.8 | 269.9 | 78.2 | 1.000068 |
| 41500.0 | 187.2 | -56.4 | | | 300.5 | 573.8 | 267.9 | 77.5 | 1.000067 |
| 42000.0 | 182.8 | -57.1 | | | 294.7 | 572.8 | 266.8 | 74.2 | 1.000066 |
| 42500.0 | 178.4 | -57.9 | | | 288.8 | 571.8 | 265.8 | 70.9 | 1.000064 |
| 43000.0 | 174.2 | -58.7 | | | 283.0 | 570.8 | 265.5 | 68.4 | 1.000063 |
| 43500.0 | 170.1 | -59.5 | | | 277.3 | 569.8 | 265.6 | 66.2 | 1.000062 |
| 44000.0 | 166.0 | -59.3 | | | 270.8 | 568.8 | 267.8 | 64.9 | 1.000060 |
| 44500.0 | 162.1 | -59.9 | | | 265.8 | 567.8 | 271.1 | 65.8 | 1.000059 |
| 45000.0 | 158.2 | -59.1 | | | 259.4 | 567.0 | 274.8 | 67.0 | 1.000057 |
| 45500.0 | 154.4 | -59.8 | | | 254.1 | 566.3 | 274.9 | 64.4 | 1.000056 |
| 46000.0 | 150.7 | -60.1 | | | 248.4 | 565.8 | 275.1 | 61.8 | 1.000055 |
| 46500.0 | 147.1 | -60.3 | | | 240.7 | 565.3 | 275.8 | 59.8 | 1.000054 |
| 47000.0 | 143.5 | -60.5 | | | 235.1 | 564.1 | 269.7 | 58.2 | 1.000052 |
| 47500.0 | 140.1 | -60.6 | | | 229.8 | 563.9 | 268.1 | 56.4 | 1.000051 |
| 48000.0 | 136.7 | -60.2 | | | 223.7 | 563.3 | 268.7 | 60.4 | 1.000050 |

STATION ALTITUDE 3989.00 FEET MSL
14 DEC. 78 0630 HRS MST
ASCENTION NO. 797

UPPER AIR DATA
3400920797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT CENTIGRADE | REL.HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|---|---|---|---|---|---|---|---|---|---|
| 48500.0 | 133.5 | -59.1 | | | 217.2 | 569.9 | 269.1 | 61.8 | 1.000048 |
| 49000.0 | 130.3 | -59.8 | | | 211.7 | 570.4 | 269.5 | 59.7 | 1.000047 |
| 49500.0 | 127.1 | -60.1 | | | 207.9 | 568.6 | 267.5 | 57.5 | 1.000046 |
| 50000.0 | 124.0 | -61.5 | | | 204.1 | 568.8 | 269.0 | 55.1 | 1.000045 |
| 50500.0 | 121.0 | -62.6 | | | 200.5 | 568.0 | 264.1 | 52.7 | 1.000045 |
| 51000.0 | 118.1 | -64.1 | | | 196.9 | 568.2 | 262.2 | 50.8 | 1.000044 |
| 51500.0 | 115.2 | -65.1 | | | 192.9 | 568.0 | 261.0 | 50.6 | 1.000043 |
| 52000.0 | 112.3 | -66.0 | | | 189.9 | 568.7 | 259.7 | 50.5 | 1.000042 |
| 52500.0 | 109.6 | -66.9 | | | 186.0 | 569.5 | 260.1 | 49.4 | 1.000041 |
| 53000.0 | 106.8 | -67.8 | | | 181.2 | 568.3 | 261.1 | 48.0 | 1.000040 |
| 53500.0 | 104.2 | -68.7 | | | 177.5 | 567.8 | 261.6 | 46.8 | 1.000040 |
| 54000.0 | 101.6 | -69.6 | | | 173.9 | 568.8 | 261.7 | 46.0 | 1.000039 |
| 54500.0 | 99.1 | -70.4 | | | 170.2 | 569.8 | 261.7 | 45.3 | 1.000038 |
| 55000.0 | 96.5 | -70.6 | | | 166.2 | 568.1 | 259.2 | 44.3 | 1.000037 |
| 55500.0 | 94.1 | -71.3 | | | 162.4 | 568.8 | 259.9 | 43.4 | 1.000036 |
| 56000.0 | 91.7 | -71.7 | | | 158.6 | 568.9 | 264.1 | 42.8 | 1.000035 |
| 56500.0 | 89.4 | -72.2 | | | 154.9 | 568.8 | 260.9 | 42.7 | 1.000035 |
| 57000.0 | 87.1 | -72.6 | | | 151.4 | 568.8 | 259.7 | 42.6 | 1.000034 |
| 57500.0 | 84.9 | -73.1 | | | 147.9 | 568.0 | 262.1 | 41.6 | 1.000033 |
| 58000.0 | 82.8 | -73.5 | | | 144.4 | 568.8 | 264.4 | 40.2 | 1.000032 |
| 58500.0 | 80.8 | -73.1 | | | 140.4 | 568.0 | 266.6 | 38.9 | 1.000031 |
| 59000.0 | 78.8 | -72.8 | | | 136.8 | 568.8 | 266.0 | 38.1 | 1.000030 |
| 59500.0 | 76.8 | -72.4 | | | 132.9 | 568.8 | 264.8 | 37.4 | 1.000030 |
| 60000.0 | 74.7 | -72.1 | | | 129.3 | 568.4 | 263.7 | 36.9 | 1.000029 |
| 60500.0 | 72.8 | -71.7 | | | 125.8 | 568.9 | 263.4 | 37.2 | 1.000028 |
| 61000.0 | 70.9 | -71.4 | | | 122.4 | 568.4 | 267.0 | 37.5 | 1.000027 |
| 61500.0 | 69.1 | -71.0 | | | 119.1 | 568.9 | 268.5 | 36.7 | 1.000027 |
| 62000.0 | 67.4 | -70.5 | | | 115.9 | 568.4 | 269.6 | 31.3 | 1.000026 |
| 62500.0 | 65.7 | -70.2 | | | 112.8 | 568.8 | 268.9 | 25.9 | 1.000025 |
| 63000.0 | 64.1 | -69.9 | | | 109.7 | 568.8 | 268.8 | 20.6 | 1.000024 |

STATION ALTITUDE 3989.00 FEET MSL
14 DEC. 73 0830 HRS MST
ASCENSION NO. 797

UPPER AIR DATA
3430020797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT DEGREES CENTIGRADE | REL.HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TRU) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|---|---|---|---|---|---|---|---|---|---|
| 03500.0 | 62.5 | -69.3 | | | 106.8 | 556.2 | 266.5 | 16.2 | 1.000024 |
| 04000.0 | 60.9 | -65.9 | | | 103.9 | 555.7 | 261.7 | 11.7 | 1.000023 |
| 04500.0 | 59.4 | -66.5 | | | 101.1 | 557.5 | 257.5 | 6.8 | 1.000023 |
| 05000.0 | 57.9 | -69.1 | | | 98.4 | 557.9 | 261.4 | 9.0 | 1.000022 |
| 05500.0 | 56.5 | -67.7 | | | 95.8 | 558.4 | 265.3 | 9.1 | 1.000021 |
| 06000.0 | 55.1 | -67.3 | | | 93.2 | 559.0 | 270.7 | 9.7 | 1.000021 |
| 06500.0 | 53.7 | -66.9 | | | 90.7 | 559.5 | 274.1 | 11.5 | 1.000020 |
| 07000.0 | 52.4 | -66.5 | | | 88.2 | 560.1 | 300.0 | 14.0 | 1.000020 |
| 07500.0 | 51.1 | -66.0 | | | 85.9 | 560.7 | 307.6 | 15.8 | 1.000019 |
| 08000.0 | 49.8 | -65.7 | | | 83.6 | 561.4 | 303.7 | 16.7 | 1.000019 |
| 08500.0 | 48.6 | -65.4 | | | 81.5 | 561.9 | 300.3 | 17.8 | 1.000018 |
| 09000.0 | 47.4 | -65.2 | | | 79.4 | 562.6 | 298.4 | 17.0 | 1.000018 |
| 09500.0 | 46.2 | -65.0 | | | 77.4 | 563.1 | 298.8 | 14.7 | 1.000017 |
| 10000.0 | 45.1 | -64.8 | | | 75.4 | 563.4 | 283.3 | 12.6 | 1.000017 |
| 10500.0 | 44.0 | -64.5 | | | 73.5 | 563.7 | 279.5 | 10.6 | 1.000016 |
| 11000.0 | 42.9 | -64.3 | | | 71.6 | 564.0 | 283.2 | 8.5 | 1.000016 |
| 11500.0 | 41.9 | -64.1 | | | 69.8 | 564.3 | 289.6 | 6.6 | 1.000016 |
| 12000.0 | 40.9 | -63.9 | | | 68.0 | 564.6 | 290.0 | 5.8 | 1.000015 |
| 12500.0 | 39.9 | -63.6 | | | 66.3 | 564.9 | 297.8 | 7.1 | 1.000015 |
| 13000.0 | 38.9 | -63.4 | | | 64.6 | 564.2 | 290.7 | 8.3 | 1.000014 |
| 13500.0 | 37.9 | -63.2 | | | 62.9 | 564.5 | 299.1 | 9.7 | 1.000014 |
| 14000.0 | 37.0 | -63.0 | | | 61.3 | 564.8 | 298.5 | 11.4 | 1.000014 |
| 14500.0 | 36.1 | -62.7 | | | 59.8 | 565.1 | 298.1 | 13.1 | 1.000013 |
| 15000.0 | 35.2 | -62.5 | | | 58.2 | 565.7 | 297.8 | 14.7 | 1.000013 |
| 15500.0 | 34.4 | -61.6 | | | 56.8 | 566.0 | 294.5 | 15.9 | 1.000013 |
| 16000.0 | 33.6 | -61.9 | | | 55.4 | 567.3 | 291.4 | 17.0 | 1.000012 |
| 16500.0 | 32.8 | -60.3 | | | 53.9 | 568.7 | 289.0 | 18.2 | 1.000012 |
| 17000.0 | 32.0 | -59.5 | | | 52.6 | 569.3 | 288.6 | 18.9 | 1.000012 |
| 17500.0 | 31.2 | -59.9 | | | 50.7 | 570.2 | 288.5 | 19.4 | 1.000011 |
| 18000.0 | 30.5 | -59.2 | | | 49.4 | 571.1 | 288.5 | 20.0 | 1.000011 |

UPPER AIR DATA
34000 20797
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
14 DEC. 78 0830 HRS MST
ASCENSION NO. 797

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|---|---|---|---|---|---|---|---|---|---|
| 78500.0 | 29.7 | -57.8 | | | 46.1 | 571.7 | 268.4 | 20.4 | 1.000011 |
| 79000.0 | 29.0 | -57.9 | | | 47.0 | 571.6 | 268.3 | 20.6 | 1.000010 |
| 79500.0 | 28.3 | -57.9 | | | 45.9 | 571.6 | 268.2 | 20.9 | 1.000010 |
| 80000.0 | 27.7 | -57.9 | | | 44.8 | 571.6 | 268.2 | 21.1 | 1.000010 |
| 80500.0 | 27.0 | -58.0 | | | 43.7 | 571.5 | 268.2 | 21.0 | 1.000010 |
| 81000.0 | 26.4 | -58.0 | | | 42.7 | 571.4 | 268.2 | 21.0 | 1.000010 |
| 81500.0 | 25.7 | -58.0 | | | 41.7 | 571.4 | 268.2 | 20.9 | 1.000009 |
| 82000.0 | 25.1 | -58.1 | | | 40.7 | 571.3 | 267.2 | 21.5 | 1.000009 |
| 82500.0 | 24.5 | -58.1 | | | 39.8 | 571.3 | 265.0 | 22.5 | 1.000009 |
| 83000.0 | 24.0 | -58.2 | | | 38.8 | 571.2 | 264.1 | 23.6 | 1.000009 |
| 83500.0 | 23.4 | -58.2 | | | 37.9 | 571.2 | 262.8 | 24.7 | 1.000008 |
| 84000.0 | 22.8 | -58.2 | | | 37.0 | 571.1 | | | 1.000008 |
| 84500.0 | 22.3 | -58.3 | | | 36.2 | 571.1 | | | 1.000008 |
| 85000.0 | 21.8 | -58.0 | | | 35.3 | 571.4 | | | 1.000008 |
| 85500.0 | 21.3 | -57.4 | | | 34.3 | 572.2 | | | 1.000008 |
| 86000.0 | 20.8 | -56.8 | | | 33.4 | 573.0 | | | 1.000007 |
| 86500.0 | 20.3 | -56.2 | | | 32.5 | 573.8 | | | 1.000007 |

MRN SIGNIFICANT LEVEL DATA

STATION ALTITUDE 3939.00 FEET MSL
14 DEC. 70 0830 HRS MST
ASCENSION NO. 797

3480020797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOPOTENTIAL ALTITUDE DECAMETERS | WIND DATA DIRECTION DEG (TN) | SPEED KTS | N-S MPS | E-W MPS | DEW PT DEP DEG C | TEMPERATURE AIR DEG C | PRESSURE MILLIBARS |
|---|---|---|---|---|---|---|---|
| 3033. | 9999.** | 9999.** | -9999.** | -9999.** | 99 | -55.9 | 2.000+1 |
| 2572. | 9999.** | 9999.** | -9999.** | -9999.** | 99 | -58.3 | 2.200+1 |
| 2377. | 298. | 10. | -5. | 10. | 99 | -57.8 | 3.000+1 |
| 2270. | 298. | 7. | -3. | 6. | 99 | -62.6 | 3.560+1 |
| 2062. | 304. | 9. | -5. | 7. | 99 | -65.7 | 5.000+1 |
| 1860. | 298. | 19. | -9. | 16. | 99 | -71.2 | 7.000+1 |
| 1760. | 294. | 21. | -9. | 21. | 99 | -73.5 | 8.300+1 |
| 1650. | 292. | 30. | -13. | 25. | 99 | -70.2 | 1.000+2 |

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL
14 DEC. 78 0830 HRS MST
ASCENSION NO. 797

MANDATORY LEVELS
34803020797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| PRESSURE MILLIBARS | GEOPOTENTIAL FEET | TEMPERATURE AIR DEGREES CENTIGRADE | TEMPERATURE DEWPOINT CENTIGRADE | REL.HUM. PERCENT | WIND DATA DIRECTION DEGREES(TN) | WIND DATA SPEED KNOTS |
|---|---|---|---|---|---|---|
| 850.0 | 5291. | 1.6 | -4.9 | 62. | 218.9 | 3.8 |
| 800.0 | 6807. | 2.4 | -8.6 | 44. | 279.6 | 9.8 |
| 750.0 | 8327. | 4.4 | -5.0 | 50. | 323.9 | 15.4 |
| 700.0 | 10369. | 2.4 | -6.7 | 51. | 325.3 | 12.5 |
| 650.0 | 12321. | -1.9 | -7.5 | 64. | 281.3 | 9.1 |
| 600.0 | 14405. | -3.3 | -14.3 | 42. | 306.3 | 11.6 |
| 550.0 | 16652. | -6.7 | -22.3 | 20. | 305.1 | 16.9 |
| 500.0 | 19071. | -11.5 | -31.6 | 17. | 302.8 | 16.9 |
| 450.0 | 21699. | -16.0 | -35.9 | 16. | 320.6 | 23.8 |
| 400.0 | 24567. | -23.6 | -41.7 | 17. | 307.6 | 29.8 |
| 350.0 | 27726. | -31.1 | -47.6 | 18. | 295.9 | 42.6 |
| 300.0 | 31242. | -40.0 | | | 289.3 | 40.3 |
| 250.0 | 35234. | -47.2 | | | 289.5 | 50.6 |
| 200.0 | 40032. | -54.2 | | | 270.5 | 77.4 |
| 175.0 | 42504. | -58.6 | | | 265.4 | 66.9 |
| 150.0 | 45072. | -60.2 | | | 275.2 | 61.4 |
| 125.0 | 49700. | -61.0 | | | 266.5 | 50.0 |
| 100.0 | 54146. | -70.2 | | | 261.7 | 45.6 |
| 80.0 | 58460. | -73.0 | | | 267.3 | 38.6 |
| 70.0 | 61040. | -71.2 | | | 267.7 | 37.6 |
| 60.0 | 64050. | -68.7 | | | 256.9 | 9.6 |
| 50.0 | 67639. | -66.7 | | | 304.6 | 16.5 |
| 40.0 | 72113. | -63.7 | | | 297.6 | 6.8 |
| 30.0 | 77963. | -57.8 | | | 268.4 | 20.2 |
| 25.0 | 81754. | -53.1 | | | 266.9 | 21.6 |
| 20.0 | 86373. | -50.9 | | | | |

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

NRN MANDATORY LEVELS

STATION ALTITUDE 3939.00 FEET MSL
14 DEC. 78 0530 HRS MST
ASCENSION NO. 797

34500020797
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

| GEOPOTENTIAL ALTITUDE DECAMETERS | WIND DATA DIRECTION DEG (TN) | WIND DATA SPEED MPS | WIND DATA N-S MPS | WIND DATA E-W MPS | DEW PT DEP DEG C | TEMPERATURE AIR DEG C | PRESSURE MILLIBARS |
|---|---|---|---|---|---|---|---|
| 3633. | 9999.** | 9999.** | -9999.** | -9999.** | 99 | -55.9 | 2.000+1 |
| 3492. | 287. | 11. | -3. | 11. | 99 | -58.1 | 2.500+1 |
| 3377. | 285. | 10. | -3. | 10. | 99 | -57.8 | 3.000+1 |
| 3198. | 298. | 9. | -2. | 8. | 99 | -63.7 | 4.000+1 |
| 3062. | 305. | 8. | -3. | 7. | 99 | -65.7 | 5.000+1 |
| 1952. | 258. | 5. | 1. | 5. | 99 | -68.7 | 6.000+1 |
| 1869. | 268. | 19. | 1. | 19. | 99 | -71.2 | 7.000+1 |
| 1782. | 267. | 20. | 1. | 20. | 99 | -73.0 | 8.000+1 |
| 1650. | 262. | 20. | 3. | 20. | 99 | -70.2 | 1.000+2 |
| 1515. | 267. | 29. | 2. | 29. | 99 | -61.0 | 1.250+2 |
| 1401. | 275. | 32. | -3. | 32. | 99 | -60.2 | 1.500+2 |
| 1305. | 265. | 35. | 3. | 35. | 99 | -58.6 | 1.750+2 |
| 1220. | 271. | 40. | -3. | 40. | 99 | -54.2 | 2.000+2 |
| 1074. | 270. | 20. | 0. | 20. | 99 | -47.2 | 2.500+2 |
| 952. | 269. | 21. | -7. | 20. | 99 | -40.0 | 3.000+2 |
| 845. | 296. | 22. | -10. | 20. | 17 | -31.1 | 3.500+2 |
| 749. | 306. | 15. | -9. | 12. | 18 | -23.6 | 4.000+2 |
| 661. | 321. | 12. | -9. | 8. | 20 | -16.0 | 4.500+2 |
| 581. | 303. | 10. | -5. | 8. | 20 | -11.5 | 5.000+2 |
| 508. | 305. | 9. | -5. | 7. | 16 | -6.7 | 5.500+2 |
| 439. | 309. | 6. | -4. | 5. | 11 | -3.3 | 6.000+2 |
| 376. | 281. | 5. | -1. | 5. | 06 | -1.6 | 6.500+2 |
| 316. | 325. | 6. | -5. | 4. | 09 | 2.4 | 7.000+2 |
| 260. | 324. | 7. | -5. | 4. | 09 | 4.4 | 7.500+2 |
| 207. | 290. | 5. | -1. | 5. | 11 | 2.4 | 8.000+2 |
| 159. | 218. | 2. | 1. | 1. | 05 | 1.6 | 8.500+2 |

WIND DATA NOT COMPUTED DUE TO MISSING AZIMUTH AND ELEVATION ANGLES.

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